Hazardous Materials Assessment

Security National Properties
Proposed Marina Center Development
Eureka, California

Prepared for:

City of Eureka

SHN Consulting Engineers & Geologists, Inc.

812 W. Wabash Avenue
Eureka, CA 95501-2138
707/441-8855

September 2006
005265.200

Reference: 005265.200

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QA/QC: MF

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1.0 Introduction

The Security National Marina Center Project (Project) includes development of a mixed-use office, retail, industrial and multi-family center on approximately 29 acres and restoration of wetlands and associated buffer on approximately 11 acres, in the City of Eureka, California.

The City of Eureka (City) is conducting an environmental review under the requirements of the California Environmental Quality Act (CEQA) in consideration of the proposed Project. The environmental review for the proposed Project includes providing an assessment of hazardous materials for the proposed Project.

This report provides an overview of the presence of hazardous materials within the project area, the potential for impacts during construction activities for future development, and the regulatory setting applicable to environmental protection and health and safety.

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10).

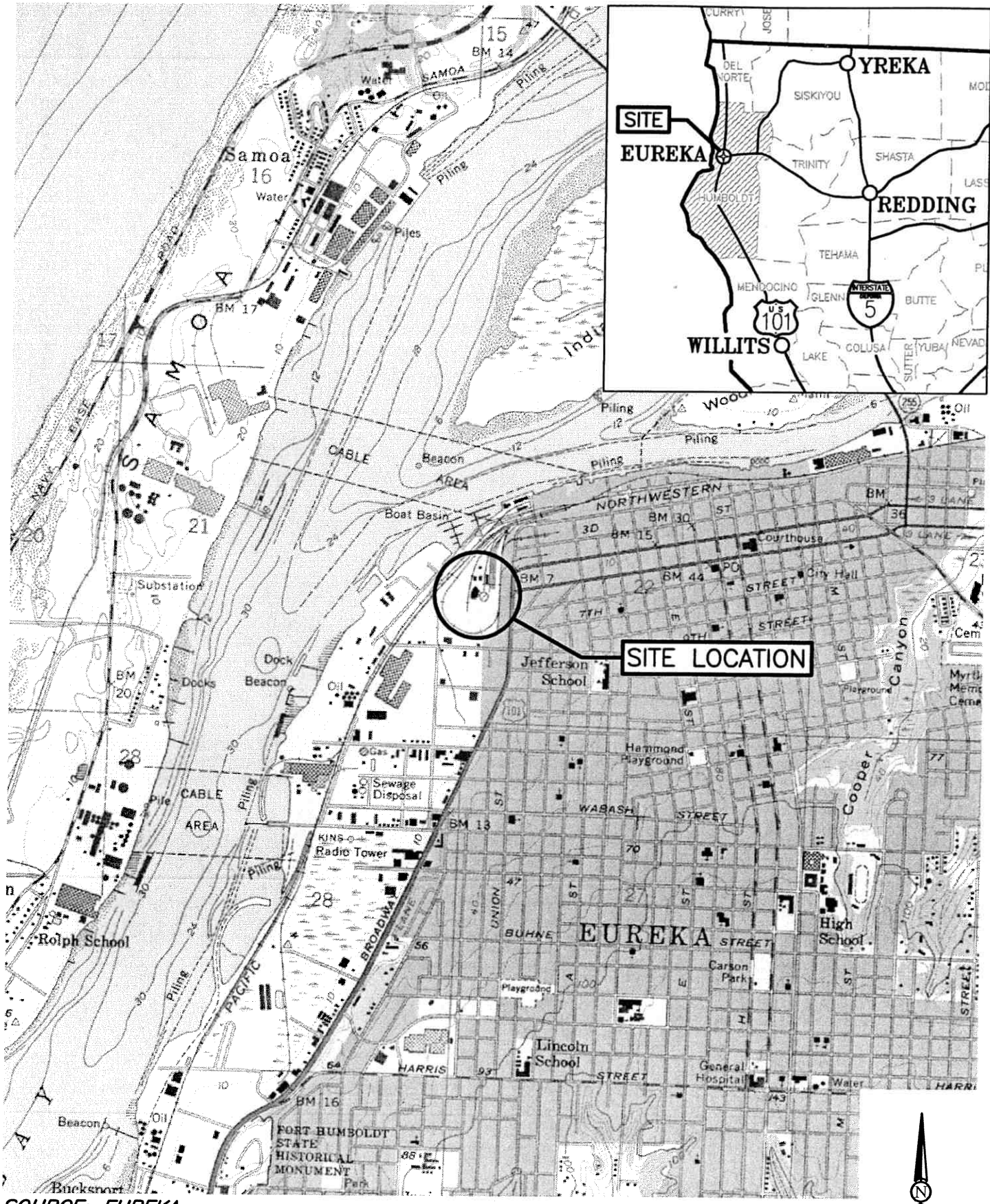
Hazardous wastes are defined in the same manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (CCR, Title 22, Chapter 11, Article 3).

2.0 Setting

The Project site encompasses an approximate 40-acre parcel located along Humboldt Bay that consists of Assessor's Parcel Numbers 003-021-009, 003-031-006, 003-041-007, 003-031-007, 003-031-003, 003-031-013, 003-031-012, 003-041-0005, 003-041-006 and 003-051-001 in the city of Eureka, in Humboldt County, California (Figure 1). Waterfront Drive borders the property to the north, west and southwest. The site is bordered to the south by properties located on Washington Street and by Washington Street, and to the east by properties that are adjacent to Broadway Avenue and by Broadway Avenue. Clark Slough traverses the southwestern portion of the site, before connecting with Humboldt Bay. The primary uses of land in this area are light industrial and commercial.

2.1 Historical Conditions

Prior to its development, the majority of the site was undeveloped tidal marsh. As development of the site progressed, the tidal marsh was filled in to support historic operations. Historic operations



SOURCE: EUREKA USGS 7.5 MINUTE QUADRANGLE

1"=2000'±

Consulting Engineers & Geologists, Inc.	Security National Properties Former Railroad Yard Eureka, California	Site Location Map SHN 005265	
	June 2006	005265-SITE-LCTN	Figure 1

at the site included: a former railroad yard including railroad car maintenance and repair, and fueling of locomotives (APNs 003-041-007, 033-031-006, and 003-021-009); former petroleum bulk fuel plants including the Former Mobil Oil bulk fuel plant (APN 003-031-003), the Former General Petroleum bulk plant (APN 003-041-006), and the Former Richfield Bulk Fuel Plant (APN 031-041-005); a vehicle fueling station known as the Former Fuel Cardlock Facility (APN 003-051-001); a warehouse and machine shop (APNs 003-031-013 and 003-031-0012); and a transportation yard (APN 003-031-007). The former locations of specific site operations and on-site structures are shown on Figure 2.

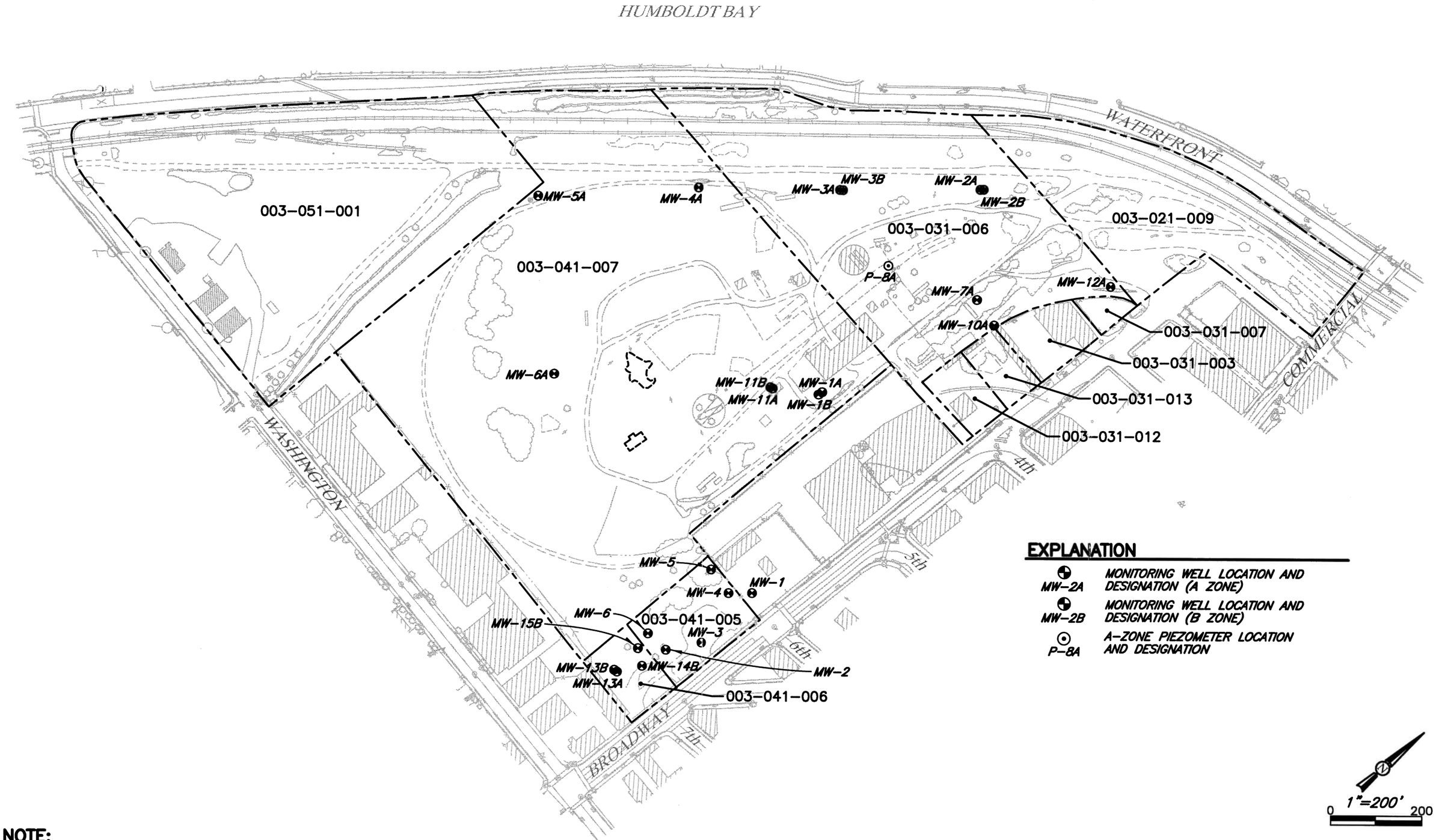
Based on site history at the former railroad yard, chemicals of significant use on the site included Bunker C oil, diesel fuel, and gasoline. Bunker C oil was the primary fuel used for locomotives at the site from the late 1900s to 1954. After 1954, diesel fuel was used for locomotives. During site operations, Bunker C fuel was stored onsite in a 650,000-gallon Aboveground Storage Tank (AST). In 1954, the Bunker C AST was modified to make a secondary containment structure for two 12,700-gallon diesel ASTs. Fuel storage at the site was discontinued in 1984 as site operations decreased and a tank truck was used to fuel locomotives. Three Underground Storage Tanks (USTs) were formerly used at the site to store gasoline for fueling company trucks and automobiles. The USTs were removed from the site in 1988 and ranged in size from 600 to 2,500 gallons. The former locations of fuel storage tanks at the site are shown on Figure 2.

Locomotive maintenance and repair was conducted at the location of the former roundhouse. A review of historic aerial photographs from 1946 and 1962 identified two areas south of the roundhouse that were possibly used as oil disposal pits (Geomatrix, June 1999). In 1976, an underground oil collection system was constructed at the site to collect oil and diesel fuel from the active operational area. The system was in operation until 1986. The locations of the possible oil disposal pits and oil collection system are shown on Figure 2.

The Former Fuel Cardlock Facility parcel remained undeveloped tidal marsh until approximately 1941, when it began to be filled with harbor dredge spoils. Two 1,000-gallon USTs were installed in 1954 and a 10,000-gallon AST was installed in 1960. An additional AST was installed in 1987. Gasoline and diesel were stored in the fuel tanks. The facility closed in 1992 when all of the cardlock facilities, including the two 1,000 gallon USTs, the two ASTs, and associated piping were removed (W&K, 1998).

The Former Richfield Bulk Fuel Plant parcel was leased to the Richfield Oil Company prior to 1931. Richfield used the site as a bulk fuel storage plant until sometime after 1974. At least two ASTs, a pump house and filling station, office building, and warehouse were constructed prior to 1931. A third AST was installed in 1939, and two additional ASTs were installed by 1957. Environmental investigations to date indicate that gasoline, diesel, solvents, and Bunker C oil were likely stored onsite. To date, all ASTs have been removed from the parcel.

The Former General Petroleum Bulk Fuel Plant parcel was developed around 1929, and was operated by General Petroleum until approximately 1955. The site included several ASTs, pumps, piping, filling station, warehouses, and an oil truck storage building. The onsite structures were removed between 1955 and 1957. Environmental Investigations to date indicate that gasoline, diesel, solvents, and Bunker C oil were likely stored onsite.



NOTE:

BASE MAP ADAPTED FROM AERIAL PHOTOGRAPH TAKEN ON SEPTEMBER 21, 1995 BY RICHARD B. DAVIS COMPANY, INC., OF SMITH RIVER, CALIFORNIA

SHN Consulting Engineers & Geologists, Inc.	Security National Properties Former Railroad Yard Eureka, California	Project Parcel Map SHN 005265
	September 2006 | 005265-APMAP	Figure 2

APN 003-031-013 was originally developed in approximately 1957 with a warehouse that exists today. Hazardous substances such as hydraulic fluid and waste oil were stored onsite. The site also included an AST (Blue Rock, October 2005).

APN 003-031-012 was originally developed in approximately 1957 with a wood-framed building. The property has historically been used for a natural gas distributing facility and a hydraulic repair shop (Blue Rock, October 2005).

APN 003-031-003 was originally developed by 1954 with two metal and wood-frame buildings and four ASTs. Mobile Oil Corp. operated the ASTs, which were removed in approximately 1966. The site was used as a truck maintenance facility and petroleum storage/warehouse until the early 2000s. The site is currently used as a dog kennel business (Blue Rock, September 2005).

2.2 Current Conditions

Two metal-framed warehouses and a smaller wood-frame office are present on the Former Fuel Cardlock Facility (APN 003-051-001). The warehouses and office are currently not in use. However, the remainder of the parcel is currently used for lumber storage and parking. A wood framed building is present on APN 003-031-012 and is currently vacant. A metal-framed shop is present on APN 003-031-013 and is currently occupied by a machine and hydraulic repair shop. A large metal-framed building is present on APN 003-031-003 and is currently occupied by a dog kennel.

The remainder of the site is currently vacant and inactive. Only the foundations of some former structures are still present. Vegetative cover is present throughout the former operational area and is locally thick in lower elevations of the site. The tracks that once occupied the site have been removed. The only track that is still present is the current North Coast Railroad Authority (NCRA) line that passes along the northern boundary of the property. Dirt roads are present across the site, including some that follow the path of the former Balloon Track. Several boxcars and locomotives continue to occupy the existing NCRA tracks.

2.3 Airports

The project site is located approximately 3 miles west of the Murray Field Airport. Based on a review of the Murray Field Airport Approach Zone Map, which is located in the Humboldt County Public Works Department, the project site is located well outside of the airport flight path Zone D. Zone D is the outermost flight path zone of the Murray Field Airport. Projects that are located within that zone typically do not have development restrictions, such as maximum height limitations. The project site is not located within the airport land use plan (or the airport's approach zone.

3.0 Site Contamination

Numerous site investigation activities have been conducted to assess the nature and extent of contamination present at the site. Extensive field programs including soil sampling, groundwater sampling, storm water sampling, soil borings, trenching, field testing, site inspections, and laboratory analysis have been conducted. This section summarizes the nature and extent of contamination identified at the site.

3.1 Soils

The shallow soils beneath the site are impacted primarily with long-chain petroleum hydrocarbons such as diesel, motor oil and Bunker C fuel oil. Bunker C fuel oil, diesel and gasoline were stored and used on site. Metals analysis conducted on soil samples collected throughout the site show the presence of arsenic, copper, and lead. Laboratory analysis of soil samples included diesel (TPHD), gasoline (TPHG), motor oil (TPHMO), Polynuclear Aromatic Hydrocarbons (PNAs) , Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), metals, and Halogenated Volatile Organic Compounds (HVOCS).

Field programs consisting of surface sampling, soil borings, trenching, field screening and laboratory analysis were performed to investigate the extent of contamination in subsurface soils throughout the site. Trenching activities included visual observations and a petroleum hydrocarbon field-screening program using Thin Layer Chromatography (TLC) testing followed by laboratory analysis. Soil samples submitted for laboratory analysis consisted primarily of samples indicating a positive result from TLC screening.

3.1.1 Petroleum Hydrocarbons

Long-chain petroleum hydrocarbons (TPHD, TPHMO, Bunker C fuel oil) were found in soil samples collected throughout the former railroad yard.

Trenching activities conducted at the former railroad yard identified residual petroleum in soil in the former operations area. The largest area of stained soil was located south of the roundhouse, in the area believed to be a former oil disposal pit. Soil was observed stained in this area to a depth of 8-feet below ground surface (bgs). Separate phase petroleum was observed on water in trenches with residual petroleum in soil.

PNAs were analyzed in a total of 40 soil samples collected throughout the former railroad yard. Soil samples were collected at depths ranging from the ground surface to 4-feet bgs. PNAs were detected at low concentrations in 28 near surfaces soil samples collected in the former operations area.

Laboratory analysis for BTEX was conducted on 117 soil samples collected at the former railroad yard, from depths ranging from 0.75 to 6 feet bgs. BTEX constituents were detected in only 5 samples; all collected near the former locomotive refueling platforms and Bunker C oil storage tank.

Short-chain and long-chain petroleum hydrocarbons (TPHG, TPHD, and TPHMO) were found in soil samples collected in the vicinity of the former USTs and AST at the Former Fuel Cardlock Facility. A remedial action was conducted in November 1998, which consisted of removing approximately 157 cubic yards of contaminated soil, and backfilling with soil and oxygen releasing compounds. Confirmation soil samples indicated that TPHG, TPHD, and TPHMO were still present in the vicinity of the former USTs and AST. Additional remediation was conducted, including the removal of approximately 280 cubic yards of contaminated soil for offsite disposal in 2004. The site was closed by the Regional Water Quality Control Board (RWQCB) on April 21, 2005.

Subsurface investigations at the Former Atlantic Richfield Company Bulk Plant site (APN 003-041-005) have identified TPHG, TPHD, TPHMO, and BTEX in site soils at depths ranging from 2 to 11 feet bgs. Most of the contaminated soil has been identified on the northern portion of the site in the vicinity of the former fuel pumps and ASTs, on the eastern portion of the site near the former fueling station, and on the southern portion of the site near the former AST (Delta, October 2004).

Subsurface investigations at the Former General Petroleum site (APN 003-041-006) have identified TPHG, TPHD, and TPHMO in site soils with the bulk of the contaminant mass just above the estuarine clay beneath the site (approximately 10 feet bgs) in the vicinity of the former filling station and fuel pumps (Geomatrix, July 2001).

3.1.2 Metals

The results of metals analyses for soil samples identified all 17 of the California Code of Regulations Title 22 metals in site soil at the former railroad yard. A total of 56 soil samples were analyzed for 17 CCR Title 22 metals. Additional soil samples were collected and analyzed for lead, copper, chromium, and hexavalent chromium. Soil samples collected for metals analyses were obtained at depths ranging from ground surface to 5.5 feet bgs.

Metals were detected in soil samples across the site at varying concentrations. Three soil samples collected south of the roundhouse in the area of the possible oil disposal pit had concentrations exceeding Total Threshold Limit Concentrations (TTLC) criteria for hazardous waste (CCR Title 22). One soil sample exceeded the criteria for lead (TTLC 1,000 mg/kg) and 2 exceeded the criteria for copper (TTLC 2,500 mk/kg). No other CCR Title 22 metals were found at concentrations above their respective TTLCs.

North of the former disposal area, several surface samples contained elevated concentrations of lead. The highest concentrations of lead identified in site soils are located in the area south of the roundhouse (possible former oil disposal pit) from the surface to a depth of 3.5 feet bgs.

The concentrations of copper detected in site soils are below the TTLC and similar in areas north and south of the roundhouse, with the exception of the former oil disposal pit. The 2 samples collected from this area contained copper levels exceeding the TTLC.

Interim site remediation has been conducted including:

- The excavation of soil impacted with lead and copper at concentrations above the TTLC. Approximately 700 cubic yards of lead-impacted soil were excavated.
- The removal of approximately 980 gallons of potentially hazardous waste material.
- The removal of approximately 3,500 gallons of oily wastewater.
- The removal of four USTs from APN 003-041-007.
- The removal of two USTs and two ASTs from APN 003-051-001.
- The removal of all ASTs from APN 031-041-005.
- The removal of all ASTs from APN 003-041-006.

3.1.3 Volatile Organic Compounds

Volatile Organic Compounds (VOCs) were analyzed on 39 soil samples collected from across the site. The only VOC detected in site soil was Tetrachloroethylene (PCE), in one sample collected near the perimeter drainage ditch on the ease side of the property.

3.1.4 Summary

Site investigations completed to date have indicated that short and long-chain petroleum hydrocarbons, copper and lead are the primary constituents of concern in soil at the site. The areas of highest concentrations are located south of the roundhouse in the possible former oil disposal pit, the area near the former car repair shed and former locomotive service platforms, the Former Fuel Cardlock Facility, the Former General Petroleum site, and the Former Atlantic Richfield Company Bulk Plant site. The areas located south of the former roundhouse and near the former USTs at the Former Fuel Cardlock Facility have been excavated. Subsequent post-excavation soil sampling of the area south of the Former Roundhouse indicated that metal concentrations in the remaining soil were below the TTLC and that residual petroleum concentrations remain. Residual petroleum hydrocarbons in the area of the Former Fuel Cardlock Facility appear to be degrading, based on post-remediation monitoring. The degraded petroleum hydrocarbons and metals present at the site are typically not very mobile in the environment. PNAs are relatively immobile and insoluble and do not appear to be spread significantly laterally. The results of the analysis for VOCs indicate that VOCs are not significant site concern.

3.2 Groundwater

Groundwater monitoring at the site has occurred intermittently since 1992 and regularly since 1995. The current monitoring well network consists of 25 wells throughout the site, and includes 18 "A" Zone monitoring wells and 7 "B" Zone monitoring wells. Monitoring well locations are shown on Figure 2. Groundwater sample laboratory analyses have included TPHD, TPHG, PNAs, BTEX, Semi-Volatile Organic Compounds (SVOCs), VOCs, and metals (arsenic, cadmium, total chromium, copper, lead, nickel, and zinc). The distribution of constituents detected in groundwater throughout the site is discussed in this section.

3.2.1 "A" Zone Groundwater

Historic water quality data indicates that long-chain petroleum hydrocarbons have been found in groundwater collected from the "A" zone. TPHD is the petroleum hydrocarbon that has most often been detected in groundwater collected from the "A" Zone. TPHD concentrations have generally been low, with a decreasing trend. TPHD concentrations in groundwater in the former railroad yard were below the detection limit (50 micrograms per Liter [ug/L]) in 9 of 11 wells sampled during the March 2003 monitoring event. The highest petroleum hydrocarbon concentrations have been found in wells MW-7A, P-8A, and MW-10A, all of which are located in the northeast portion of the former railroad yard.

TPHD, TPHG, and BTEX constituents have been identified in "A" zone groundwater in the area of the Former General Petroleum site. A groundwater sampling event in 2001 identified TPHD, TPHG, benzene, toluene, ethyl-benzene, and total xylenes in groundwater at MW-13A at concentrations of 1,100, 810, 43, 8.3, 57, and 37 ug/L, respectively.

TPHG, TPHD, TPHMO, and benzene have been identified in "A" zone groundwater in the area of the Former Atlantic Richfield Company Bulk Plant site. The "A" zone groundwater within this area is monitored by monitoring wells MW-1 through MW-6. A groundwater sampling event performed in 2005 identified the presence of TPHG and benzene in monitoring well MW-4 at concentrations of 250 ug/L and 77 ug/L, respectively. TPHD was detected in all six monitoring wells at concentrations ranging from 270 ug/L to 2,500 ug/L. TPHMO was detected in five of the six monitoring wells at concentrations ranging from 200 ug/L to 830 ug/L.

TPHG, TPHD, and BTEX constituents have been identified in "A" zone groundwater beneath the Former Fuel Cardlock Facility. Analytical results of groundwater samples collected in March 2005 detected TPHD and TPHG in former monitoring well MW-1 at concentrations of 150 ug/L and 670 ug/L, respectively. The RWQCB concurred with the recommendation that the site to be closed in a letter dated April 21, 2005.

Phenol has been detected in "A" Zone groundwater in the area of the former railroad yard at concentrations up to 4 ug/L

Copper, lead and arsenic have been periodically detected in "A" Zone monitoring wells at the former railroad yard. Copper has been detected in site wells at concentrations consistently below the drinking water standard. Lead was detected in one groundwater sample collected from well MW-2A above the maximum Contaminant Level (MCL) of 15 ug/L during the September 1992 monitoring event, at a concentration of 180 ug/L. It should be noted that lead was not detected in a duplicate groundwater sample collected from MW-2A in September 1992. Lead was also found in the groundwater sample collected from well MW-4A during the September 1992 sampling event at a concentration of 6 ug/L (less than the MCL). Lead has not been detected in any other groundwater samples analyzed as part of the groundwater-monitoring program for the site. Arsenic has been detected in site wells at concentrations that are slightly above the regulatory limit for drinking water.

Isolated VOCs were detected at low concentrations during the first sampling event in wells MW-2A and MW-7A (1992) at the former railroad yard. 1,1-Dichloroethane was detected in well MW-2A at a concentration of 0.54 ug/L and vinyl chloride was detected in well MW-7A at a concentration of 1.5 ug/L. No other VOCs have been detected in "A" Zone groundwater samples.

3.2.2 "B" Zone Groundwater

The impact to "B" Zone groundwater has been minimal. TPHD has been found at the former railroad yard in wells MW-1B, MW-2B, and MW-3B, with the highest concentration being found in well MW-1B (160 ug/L). TPHD, TPHD, benzene, ethyl-benzene, and total xylenes have been found at the Former General Petroleum site in well MW-13B at concentrations of 180, 88, 1.9, 0.99, and 0.56 ug/L, respectively.

Phenol is the only SVOC detected in "B" Zone groundwater within the former railroad yard at concentrations up to 96 ug/L.

The VOC Trichloroethylene (TCE) was detected on one occasion during the first sampling event in monitoring well MW-3B (1992) within the former railroad yard. TCE was detected in well MW-3B at a concentration of 1.5 ug/L. No other VOCs have been detected in "B" Zone groundwater samples.

No metals that were detected in "B" Zone wells were above their respective MCLs.

3.3 Storm Water Runoff

Storm water runoff sampling has been ongoing at the site since December 2001. Current monitoring is conducted at 6 locations shown in Figure 8 (locations A through F). Surface water samples collected from sampling points A, B, and F are representative of storm water runoff from the eastern portion of the site. Surface water samples collected from sampling point D is representative of stormwater runoff from the western portion of the site. Discussions of stormwater runoff for the eastern and western drainage courses are presented in the remainder of this section.

3.3.1 Eastern Drainage Course

Surface water samples collected from drainage ditches have identified petroleum hydrocarbons and metals in the eastern drainage course of the site. The petroleum hydrocarbons may be entering the drainage ditch from adjacent properties. Some metals (copper, arsenic, and zinc) were locally present in storm water runoff from the former operational areas. Metals concentrations detected in storm water at the site were greater than water quality criteria for protection of marine organisms; however due to site topography, it is unlikely transport of metals from the eastern portion of the site would pose a risk to marine organisms. Drainage from the eastern portion of the site travels to the south along the eastern boundary of the site and ponds near the southeast corner of the property, where it infiltrates into the subsurface.

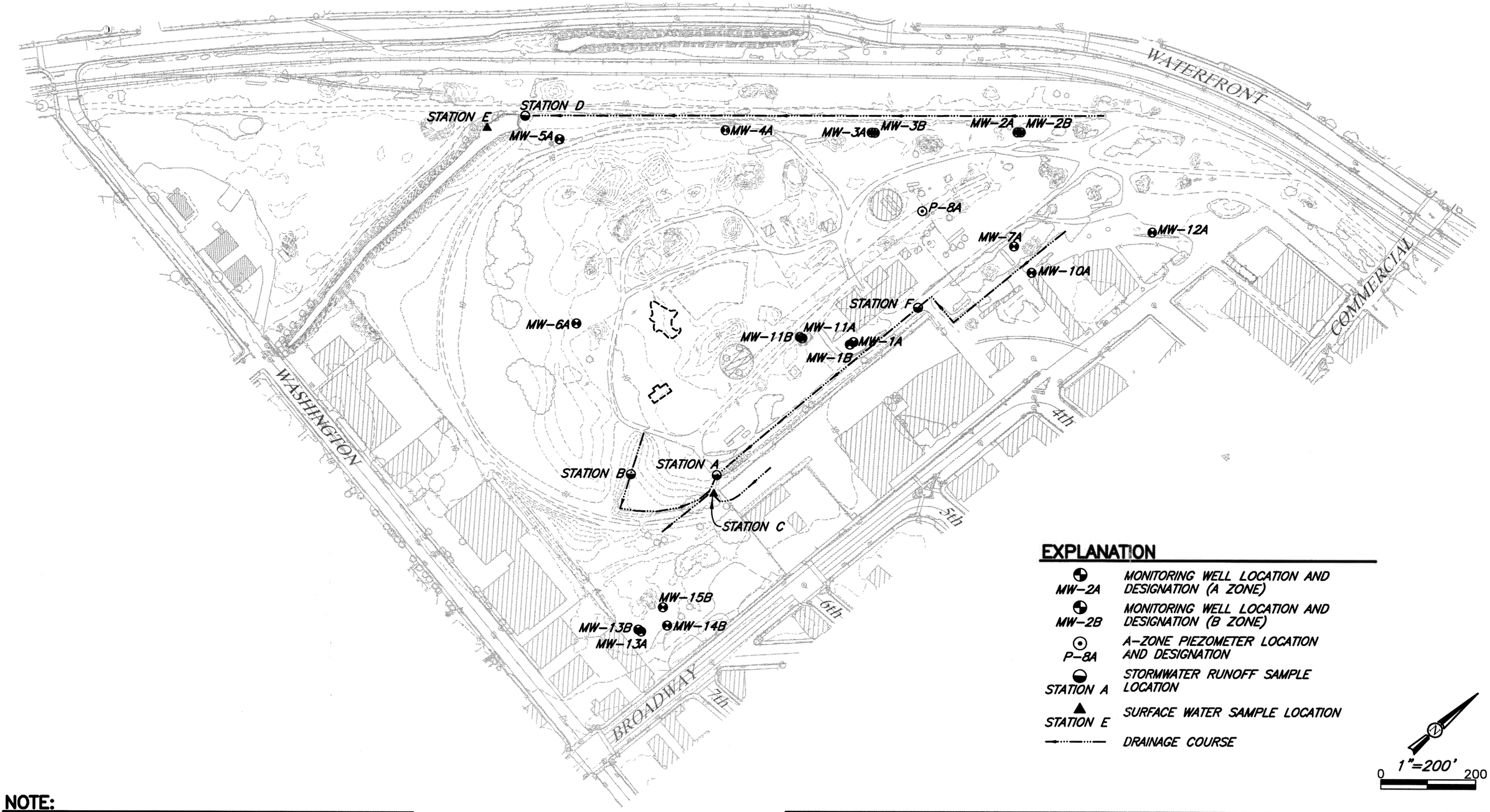
3.3.2 Western Drainage Course

Stormwater that collects in the western portion of the property drains along the western boundary to the south, and eventually drains into Clark Slough. Arsenic, barium, copper, lead, and zinc have all been detected in stormwater samples collected from Station D. However, copper is the only metal to be detected at a concentration above the water quality goal (3.1 ug/L) for Inland Bays and Estuaries. A copper concentration of 14 ug/L was detected during the December 2003 stormwater sampling event. TPHD has been detected on 4 of 16 occasions at concentrations ranging from 51 ug/L to 120 ug/L. A Taste and Odor threshold of 100 ug/L has been established as a water quality objective for TPHD in California. The Taste and Odor threshold has been exceeded on only two occasions, with the most recent occurring in December 2003.

3.4 Site Contamination Summary

Three stratographic layers that include two water-bearing zones underlie the site. The uppermost layer consists of fill material that was imported to build up the site and convert it from tide marsh to usable property. This fill material has a perched zone aquifer, identified as the "A" Zone. The "A" Zone aquifer is not tidally influenced. The second layer is bay mud material, a fine-grained material that acts as an aquitard between the first and third layers. The third layer is course-grained material that contains the "B" Zone aquifer. The "B" Zone aquifer is tidally influenced by Humboldt Bay.

HUMBOLDT BAY



EXPLANATION

MW-2A	MONITORING WELL LOCATION AND DESIGNATION (A ZONE)
MW-2B	MONITORING WELL LOCATION AND DESIGNATION (B ZONE)
P-8A	A-ZONE PIEZOMETER LOCATION AND DESIGNATION
STATION A	STORMWATER RUNOFF SAMPLE LOCATION
STATION E	SURFACE WATER SAMPLE LOCATION
	DRAINAGE COURSE

N

1"=200'

0 200

NOTE:

BASE MAP ADAPTED FROM AERIAL PHOTOGRAPH TAKEN ON SEPTEMBER 21, 1995 BY RICHARD B. DAVIS COMPANY, INC., OF SMITH RIVER, CALIFORNIA

SHN Consulting Engineers & Geologists, Inc.	Security National Properties Former Railroad Yard Eureka, California	Topographic Site Plan SHN 005265
	September 2006	005265-SITE-CONT	Figure 3

Short and long-chain petroleum hydrocarbons, primarily TPHG, TPHD, TPHMO, and Bunker C Fuel oil, are found in soil at shallow depths at various locations of the site, however; only isolated areas have high hydrocarbon concentrations. Metals have also been found in shallow soils on site.

TPHD, TPHMO and TPHG are the primary petroleum hydrocarbon found in groundwater in the "A" zone. TPHD, TPHMO and TPHG concentrations have decreased over time. This information indicates that petroleum concentrations continues to decrease over time. Arsenic, copper, and lead are the primary metals found in "A" zone groundwater, however, the impact to groundwater by these metals has been minimal.

Impact to groundwater in the B zone has been minimal, indicating that the bay mud that separates the "A" Zone from the "B" Zone has been an effective barrier in the protection of water quality in the "B" Zone.

Interim remedial measures that have been conducted include the removal of potential hazardous materials that were stored onsite, the removal of six USTs, and the excavation of approximately 700 cubic yards of lead-impacted soil and 437 cubic yards of petroleum-impacted soil.

4.0 Health Risk Assessment

A site-specific Health Risk Assessment (HRA) report was compiled for the former railroad yard in June 1997. The HRA was completed by Geomatrix Consultants, Inc., in accordance with the HRA workplan (Geomatrix 1996) submitted to the RWQCB, California Environmental Protection Agency (Cal-EPA), and the Office of Environmental Health Hazard Assessment (OEHHA) (Geomatrix 1997). The HRA report evaluated potential human health risks associated with the presence of chemicals in soil at the former railroad yard. The HRA did not include an evaluation of groundwater because concentrations of detected chemicals were equal to, or below MCLs or tap water Preliminary Remediation Goals (PRGs).

Geomatrix completed an addendum to the HRA in April 2000, to incorporate additional sample data collected at the site since the original HRA was completed (Geomatrix 2000). The addendum included exposure assumptions and toxicity criteria to reflect April 2000 U.S. Environmental Protection Agency (U.S. EPA) and Cal-EPA risk assessment guidance.

The HRA contained a description of the site setting that included the geology, hydrogeology, topography, and surrounding land use. A summary of historic site operations at the former railroad yard and a chronology of site characterization activities were additionally provided in the HRA. The HRA included a summary of analytical results for soil and groundwater samples collected during previous site investigations.

As noted previously, chemicals of significant use on the site consisted primarily of Bunker C oil and diesel fuel. Bunker C oil was the primary fuel used for locomotives at the site from the late 1900s to 1954. After 1954, diesel fuel was used for locomotives. The area is currently inactive with extensive vegetative cover. Two rail tracks are still present along the northern boundary, while the remaining tracks have been removed from the site.

Numerous site investigation activities consisting of surface sampling, soil borings, trenching, field screening and laboratory analysis were performed to investigate the extent of contamination in subsurface soils throughout the site. The shallow soils beneath the site are impacted primarily with

long-chain petroleum hydrocarbons such as diesel fuel and Bunker C oil. Metals analysis conducted on soil samples collected throughout the site show the presence of arsenic, copper, and lead.

4.1 Chemicals of Potential Concern

Chemicals of Potential Concern (COPCs) were identified for the HRA evaluation based on all analytical data from Geomatrix completed site investigations. Total Petroleum Hydrocarbons such as Diesel (TPHD), as Gasoline (TPHG), or Oil and Grease (O&G) represent mixtures of constituents that, because of their potentially highly variable composition, do not have descriptive health criteria. Therefore, the toxicity of these mixtures is best described by the aggregated toxicity of key constituents of potential toxicological concern in the mixture, such as PNAs and BTEX.

All detected PNAs and metals were identified as COPCs for quantitative evaluation in the HRA. The Volatile Organic Compounds (VOCs), including BTEX and Tetrachloroethylene (PCE) were detected at such a low frequency (3%) that they were concluded to not present a potential site-wide exposure. Therefore, these compounds were not identified as COPCs.

The HRA addendum identified five new chemicals in soil samples collected since the original HRA was completed, and considered three chemicals as site COPCs. The PNAs acenaphthene, flourene, and 2-methylnaphthalene were identified as site COPCs due to the fact that other detected PNAs had previously been identified as COPCs. The new COPCs were included in the exposure assessment and evaluated for risk characterization.

4.2 Exposure Assessment

The exposure assessment for the HRA involved the process of measuring or estimating the intensity, frequency, and duration of human exposure. The principle elements of the exposure assessment included:

- Evaluation of the influence of fate and transport processes for the COPCs
- Identification of potential exposure pathways
- Identification of potential exposure scenarios
- Calculation of representative chemical concentrations
- Estimation of potential chemical uptake

A Conceptual Site Model (CSM) was developed based on the identified soil conditions, potential current and future land use, and physical and chemical characteristics of the COPCs. The HRA evaluated the environmental fate of the COPCs based on cumulative interaction of transport and transformation processes.

Exposure pathways by which a receptor may contact a chemical in the environment by existing conditions were evaluated in the HRA. Exposure scenarios were developed for potential occurrences that included:

- Current Youth trespasser
- Future onsite construction worker
- Future onsite landscape installer
- Future onsite maintenance worker

- Future general office worker
- Offsite receptors

Exposure point concentrations were evaluated for chemical uptake in exposed individuals. Exposure equations and input parameters were used to calculate the annual average daily dose and lifetime daily dose for each of the COPCs and identified exposure pathways.

4.3 Toxicity Assessment

A toxicity assessment was completed to determine if a chemical can cause an increase in a particular adverse effect and the quantification of dose and incident in the exposed population. The adverse effect of hazard identification summarized the available toxicological information and its relevance to human exposure under site conditions. The toxicity criteria were used to evaluate noncarcinogenic and carcinogenic effects.

4.4 Risk Characterization

Results of the exposure and toxicity assessments were integrated into quantitative or qualitative estimates for the potential health risks. Noncarcinogenic health risks, carcinogenic health risks, and exposure to lead were each characterized. An uncertainty analysis was presented in the risk characterization based on the assumptions used in areas with limited data. These areas would generally arise from lack of knowledge of; site conditions, toxicity and dose-response of the COPCs, and the extent to which an individual will be exposed to the chemicals. Assumptions were selected in a manner that purposefully biases the process toward health conservatism.

4.5 Conclusions

The site-specific HRA was prepared using guidance provided by the CAL EPA and the US EPA for evaluating potential health risks associated with exposure to COPCs in soil during future site use. Results from the assessment stated:

- Potential health risks associated with COPCs in soil should not pose an unacceptable health risk to current and future onsite receptors
- Potential health risks associated with COPCs in soil should not pose an unacceptable health risk to current and future offsite receptors
- Exposure to lead in soil should not pose an unacceptable health risk for current and future site receptors
- Concentrations of chemicals in groundwater, which is not a drinking water source were less than published drinking water standards

Results of the HRA indicated that the exposure to chemicals of potential concern in the site soil should not pose an unacceptable health risk to onsite or offsite preceptors (Geomatrix 1997).

The HRA addendum incorporated analytical data collected since the original HRA addendum was completed and updated several exposure parameters and toxicity criteria to reflect more recent U.S.

EPA and Cal-EPA guidance. The results of the HRA addendum stated the presence of chemicals in soil at the site should not pose an unacceptable noncarcinogenic or carcinogenic health risk to the identified onsite or offsite receptors under the conditions evaluated (Geomatrix 2000).

5.0 Hazardous Material Regulations and Standards

Hazardous materials and health and safety are subject to numerous laws and regulations at federal, state, and local levels of government.

5.1 Federal

Federal regulatory agencies include the U.S. Environmental Protection Agency (USEPA), the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the Department of Transportation (DOT), and the National Institute of Health (NIH). The following represent federal laws and guidelines governing hazardous substances.

- Pollution Prevention Act (42 USC 13101 et seq./40 CFR)
- Clean Water Act (33 USC 1251 et seq./40 CFR)
- Oil Pollution Act (33 USC 2701-27611/30, 33,,, 40,, 46, 49 CFR)
- Clean Air Act (42 USC 7401 et seq./40 CFR)
- Occupational Health and Safety Act (29 USC 651 et seq./29 CFR)
- Federal Insecticide, fungicide, and Rodenticide Act (7 USC 136 et seq./40 CFR)
- Comprehensive Environmental Response Compensation and Liability Act (42 USC 9601 et seq./29 CFR, 40 CFR)
- Superfund Amendments and Reauthorization Act Title III (42 USC 9601 et Seq. /29 CFR)
- Resource Conservation and Recovery Act (42 USC 6901 et seq./40 CFR)
- Safe Drinking Water Act (42 USC 300f et seq./40 CFR)
- Toxic Substances Control Act (15 USC 2601 et seq./40 CFR)

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is the USEPA, under the authority of Resource Conservation and Recovery Act (RCRA). The RCRA established a federal hazardous substance "cradle-to-grave" regulatory program that is administered by the USEPA. Under RCRA, the USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous substances. The HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous substances. Under the RCRA, individual states may implement their own hazardous substance management programs as long as they are consistent with, and at least as strict as, RCRA. The USEPA must approve state programs intended to implement the RCRA requirements.

The USEPA regulates hazardous substance sites under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLA, commonly referred to as Superfund, was enacted on December 11, 1980. The purpose of CERCLA was to provide authorities the ability

to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. In addition, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund, expanded USEPA's response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required USEPA to revise the Hazard Ranking System to ensure that it accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List (NPL).

5.2 State

The California Environmental Protection Agency (Cal/EPA) and the Office of Emergency Services (OES) of the State of California establish rules governing the use of hazardous substances. The SWRCB has primary responsibility to protect water quality and supply.

The Cal/EPA was created in 1991 to better coordinate state environmental programs, reduce administrative duplication, and address the greatest environmental and health risks. The Cal/EPA unifies the state's environmental authority under a single accountable, Cabinet-level agency. The Secretary for Environmental Protection oversees the following agencies: Air Resources Board, Integrated Waste Management Board, Department of Pesticide Regulation, State Water Resources Control Board, Department of Toxic Substances Control, and Office of Environmental Health Hazard Assessment.

The following represent state laws and guidelines governing hazardous substances:

- Porter Cologne Water Quality Control Act (California Water Code Section 13000-14076 / 23 CCR)
- California Accidental Release Prevention Law (California Health and Safety Code Section 25531 *et seq.* / *19* CCR)
- California Building Code (California Health and Safety Code Section 18901 *et seq.* / 24 CCR)
- California Fire Code (California Health and Safety Code Section 13000 *et seq.* / *19* CCR)
- California Occupational Safety and Health Act (California Labor Code Section 6300 6718 / 8 CCR)
- Hazardous Materials Handling and Emergency Response "Waters Bill" (California Health and Safety Code Section 25500 *et seq.* / *19* CCR)

- Hazardous Waste Control Law (HWCL) (California Health and Safety Code Section 25100 *et seq.* / 22 CCR)
- Carpenter-Presley-Tanner Hazardous Substance Account Act "State Superfund" (California)
- Health and Safety Code Section 25300 *et seq.* / *California* Revenue and Tax Code Section 43001 *et seq.)*
- Hazardous Substances Act (California Health and Safety Code Section 108100 *et seq.)*
- Safe Drinking Water and Toxic Enforcement Act "Proposition 65" (California Health and Safety Code Sections 25180.7, 25189.5, 25192, 25249.5-25249.13 / 8 CCR, 22 CCR)
- California Air Quality Laws (California Health and Safety Code Section 39000 *et seq.* / 17 CCR)
- Aboveground Petroleum Storage Act (California Health and Safety Code Section 25270 *et seq.)*
- Pesticide Contamination Prevention Act (California Food and Agriculture Code Section 13141 *et seq.* / 3 CCR)
- Underground Storage Tank Law "Sher Bill" (California Health and Safety Code Section 25280 *et seq.* / 23 CCR)

Within Cal/EPA, the California Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport and disposal of hazardous substances under the authority of the HWCL. Regulations implementing the HWCL list 791 hazardous chemicals and 20 or 30 more common substances that may be hazardous; establish criteria for identifying, packaging and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous substances treatment, storage, disposal and transportation; and identify hazardous substances that cannot be deposited in landfills.

Under both the federal RCRA and the HWCL, the generator of a hazardous substance must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage or disposal facility to which it sends waste.

5.3 Local

The unified Hazardous Waste and hazardous Management Regulatory Program (SB 1082, 1993) is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. Cal/EPA adopted implementing regulations for the Unified Program (CCR. Title 27, Division 1, Subdivision 4, Chapter 1) January 1996. The Unified Program is implemented at the local level by Certified Unified Program Agencies (CUPAs).

5.3.1 Emergency Response to Hazardous Material Incidents

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to significant hazardous materials incidents is one part of this plan. The plan is administered by the state Office of Emergency Services, which coordinates the responses of other agencies including the Cal/EPA the California Highway Patrol, California Department of Fish and Game, the RWQCB, local environmental health departments, and local fire departments.

5.3.2 City of Eureka/Local Coastal Plan, Plans and Policies

The Safety Element of the City of Eureka General Plan (1997) contains policies regarding hazardous materials and public safety as follows:

"Policies

Hazard Materials and Toxic Contamination

The City shall ensure that the use and disposal of hazardous materials in the Eureka area complies with local, state, and federal safety standards.

The City shall discourage the development of residence or schools near known hazardous waste disposal or handling facilities. Conversely, the City shall discourage the development of hazardous waste disposal or handling facilities near residence or schools.

The City shall require secondary containment and periodic examination for all storage of toxic materials.

The City shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

The City shall require that new industries that store and process hazardous materials provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be determined by the City.

The City shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

The City shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of hazardous material.

The City shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

The City shall identify sites that are inappropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.

The City shall work with local fire protection and other agencies to ensure an adequate countywide response capability to hazardous materials emergencies.

The City shall work with owners of property affected by toxic contamination to identify cost effective approaches to remediation of contaminated soils. In particular, the City shall focus its efforts on developing unified strategies to addressing cleanup of large areas (e.g., Westside Industrial Area, the waterfront area) so as to reduce the unit cost of remediation.

The City shall work with the Regional Water Quality Control Board and Humboldt County to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.

Emergency Response

The City shall systematically and regularly review all accident contingency plans, which relate to Eureka.

The City shall work with Caltrans and Humboldt County to identify a less congested route through Eureka to be used for the transportation of heavy, as well as hazardous materials.

The City shall attempt to ensure that major access corridors be available and unobstructed in case of major emergency disaster.

The City shall cooperate with the Humboldt County, State Office of Emergency Services, and the Federal Emergency Management Agency in developing and operating a coordinated emergency response program that best utilizes the resources of each agency is assisting citizens and visitors in coping with and responding to a major emergency or disaster.

Implementation Programs

In cooperation with owners of property affected by toxic contamination , the Regional Water Quality Control Board and Humboldt County, the City shall, develop and implement a pilot project to identify cost-effective approaches to remediation of contaminated soils and to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and industrial areas.

Responsibility:	City Council Engineering Department Community Development Department
Time Frame:	FY97-98"

5.3.2 Humboldt County Plans and Policies

Assembly Bill 2948 (Tanner, 1986) established procedures for the preparation of a County Hazardous Waste Management Plan (HWMP). The HWMP is intended to serve as the primary planning document for hazardous waste management within a county, and contains goals, policies, and recommended programs for the management, recycling, and disposal of hazardous wastes. The HWMP principally governs the coordination and planning f hazardous waste disposal capacity between the county and state. The California Department of Health Services must give its approval to the plan before the document becomes effective. Humboldt County has developed a Hazardous Waste Management Plan (*Hazardous Materials Area Plan*, Humboldt County Department of Environmental Heath & Human Services Division of Environmental Health, 2003).

The Safety and Seismic Safety Element of the Humboldt County General Plan (*Humboldt County General Plan Volume I Framework Plan*, Adopted 12/10/84, Amended 02/09/98) contains policies regarding hazardous materials and public safety as follows:

> ***"Policies***
>
> **Industrial Hazards**
>
> Humboldt County defines hazardous industrial development as any development that handles toxic, flammable, or explosive materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development. Humboldt County has a prohibition on the Transport of Nuclear Materials (Ordinance #1403; Humboldt County Code, Title III, Division 8, Chapter 3). Humboldt County will permit hazardous industrial development when either: 1) It includes mitigation measures sufficient to offset increased risks to adjacent human populations; or, 2) Increased risks to adjacent human populations have been adequately mitigated by approved disaster response plans. The following are the appropriate contingency plans:
>
> A. Hazardous Materials Spills Contingency Plan
> B. Chlorine Accident Contingency Plan
> C. Humboldt Bay Nuclear Reactor Contingency Plan
>
> Humboldt County requires new development that may generate significant quantities of hazardous wastes to provide a plan for disposal, which emphasizes on-site treatment, neutralization, and recycling."

6.0 Impacts and Mitigation Measures

6.1 Significant Criteria

The significance criteria for this analysis were developed from criteria presented in Appendix G of the CEQA Guidelines and the professional judgment of the City of Eureka and its consultants. The project (or the project alternatives) would result in a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create a significant hazard to the public or the environment through resale foreseeable upset and accident conditions involving the release of hazardous material into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (no schools are located within one-quarter mile of the project site);
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and as a result, would create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, or a private airstrip, would the project result in a safety hazard for people residing or working in the project area; or
- Expose people or structures to a significant risk of loss or injury involving wildland fires.

6.2 Methodology

The environmental analysis of the project impacts provided below is based on potential physical impacts of the project.

6.3 Impacts and Mitigation Measures

Impact 1. Existing and/or previously unidentified contamination could be encountered during project site preparation and construction activities. (Potentially Significant)

Encountering contaminated soil, surface water, and groundwater without taking proper precautions could result in the exposure of construction workers and consequently result in associated significant adverse human health and environmental impacts.

Mitigation Measure 1. Prior to any construction activities, the applicant or the applicant's consultant shall facilitate the remediation of the subject property to the satisfaction of the Regional Water Quality Control Board (RWQCB).

Using the results of the soil sampling, impacted soils will be remediated as required by the RWQCB. If required, soil may be excavated using a backhoe or excavator. The excavated soil will be loaded into a dump truck and transported to the stockpile area. Excavated soil will be placed on 6-mil Visqueen®, and will be covered with 6-mil Visqueen® at the end of each day. The stockpile will be placed in a secured area of the site. The actual volume of material removed will depend on the results of the soil sampling. The excavation contractor will be responsible to provide dust control measures during excavation and stockpiling activities.

Confirmation soil samples will be collected from each excavation area. One soil sample will be collected for every 30 linear feet of sidewall, and for every 450 square feet of excavation

floor. A minimum of two samples will be collected from the floor of each excavation cavity. Duplicate samples will also be collected from various areas for laboratory analysis in accordance with the Sampling Analysis Plan.

Following site excavation, the excavation pits will be left open pending receipt of the confirmation soil sampling analytical results. Each excavation pit will be secured with a fence during the period that they are left open. The soil analytical results will be used to assess whether or not additional soil excavation is needed in order to achieve the site clean up goals. Once the excavation work is complete, the excavation areas will be backfilled with clean, river-run gravel or other clean fill material and compacted. The material will be placed in 8-inch lifts and compacted to a minimum 90% relative compaction. Three samples of the backfill material will be collected during the backfill process, submitted to the analytical laboratory and tested.

Soil Stockpile Characterization

Soil samples will be collected from various locations and depths of the stockpile for characterization. The soil stockpile characterization will be conducted in accordance with, and at the frequency required by the soil acceptance facility.

Soil Disposal

Based on the results of the soil characterization, the material will be loaded onto trucks for disposal at an appropriate facility, depending on the concentration of contaminants in the stockpiled material. The excavated material will not be stored on site for more than 90 days.

Significance After Mitigation: Less than significant

Impact 2. Hazardous materials could be spilled during the project site preparation and construction activities. (Potentially Significant)

During grading and construction activities it is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. would be brought onto the site. Temporary bulk above ground storage tanks, 55-gallon drums, various contractors for fueling and maintenance purposes would likely use sheds/trailers. As with any liquid and solid, during handling and transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill were to occur of significant quantity, the accidental release could pose both a hazard to construction employees as well as the environment. Without proper controls, this could result in a **significant** impact to the environment.

Mitigation Measure 2. The following measures shall be undertaken to the satisfaction of the City of Eureka Fire Department and the RWQCB. All hazardous or regulated materials that are used on site during construction activities will be properly stored and secured, to prevent access by the general public. No hazardous materials will be disposed of at the project site. In-house procedures will be followed when handling or storing hazardous materials, and all jobsite employees will be trained in the proper usage and storage of hazardous materials.

Absorbent materials will be maintained at locations where hazardous materials are used or stored, in order to capture spilled materials in the event of an accidental release. An emergency response plan will be developed and implemented for the project site. All jobsite employees will be properly trained to deal with hazardous material spills in the event of an accidental release.

Potential hazardous emissions will be reduced to a minimum or prevented by properly storing hazardous materials, keeping covers on containers when not in use, and securing all hazardous materials storage areas to prevent access by the general public.

Significance After Mitigation: Less than significant

Impact 3. Construction may introduce potential sources for fire. This is a potentially significant impact. (Potentially Significant)

During construction, equipment and vehicles may come into contact with vegetated areas on the site and accidentally spark and ignite dry vegetation. This is a **potentially significant** impact.

Mitigation Measure 3. During construction, the project applicant shall ensure that, through the enforcement of contractual obligations, staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. The contractor shall keep these areas clear of combustible materials in order to maintain a firebreak. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.

Significance After Mitigation: Less than significant

Impact 4. Hazardous materials could be spilled during the commercial use of the project site. (Potentially Significant)

During normal retail/commercial operations of the developed project site, it is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, fertilizers, pesticides, solvents, oils, paints, etc. would be brought onto, stored, and sold from the site. As with any liquid and solid, during handling, storage or transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill were to occur of significant quantity, the accidental release could pose both a hazard to retail employees, the general public, as well as the environment. Without proper controls, this could result in a **significant** impact to the environment.

Mitigation Measure 4. The following measures shall be undertaken to the satisfaction of the City of Eureka Fire Department, California Department of Toxic Substances Control (DTSC), and the RWQCB. All hazardous or regulated materials that are used, stored, or purchased on site will be properly stored and secured, to prevent access by the general public. No hazardous materials will be disposed of at the project site. In-house procedures will be followed when handling or storing hazardous materials, and all jobsite employees will be trained in the proper usage and storage of hazardous materials.

Absorbent materials will be maintained at locations where hazardous materials are used or stored, in order to capture spilled materials in the event of an accidental release. An emergency response plan will be developed and implemented for all relevant sites. All jobsite employees will be properly trained to deal with hazardous material spills in the event of an accidental release.

Potential hazardous emissions will be reduced to a minimum or prevented by properly storing hazardous materials, keeping covers on containers when not in use, and securing all hazardous materials storage areas to prevent access by the general public.

Significance After Mitigation: Less than significant

Impact 5. Remaining and/or previously unidentified contamination may be present below ground surface. (Potentially Significant)

Without proper controls, this could result in a **significant** impact to the environment.

Mitigation Measure 5. The following measures shall be undertaken to the satisfaction of the RWQCB. Upon completion of site remediation activities, a post-remediation groundwater-monitoring program will be implemented as required by the RWQCB. The RWQCB will outline the monitoring schedule, including what constituents will require testing and at what frequency the monitoring will occur. Groundwater monitoring report of findings will be prepared for submittal to the RWQCB upon completion of each monitoring event. If required by the RWQCB, additional site remediation may occur.

In order to address past remediation subsurface contamination issues that arise, a soil and groundwater management contingency plan will be prepared for the property. The soil and groundwater management contingency plan will be used to properly address any subsurface soil or groundwater contamination that is encountered after the approved site remediation effort is complete.

Significance After Mitigation: Less than significant

Impact 6. Potential hazardous material sources that may be present at the surface of the project site may have the potential to run-off the subject site during a rain or similar hydrologic event. (Potentially Significant)

Without proper controls, this could result in a **significant** impact to the environment.

Mitigation Measure 6. The following measures shall be undertaken to the satisfaction of the RWQCB and City of Eureka. A storm water management plan will be prepared to address site-specific guidelines that minimize the potential for storm water pollution and erosion resulting from construction and operation of the proposed development. This plan will be prepared based on review of several documents describing BMPs related to storm water pollution and erosion control.

The City of Eureka storm water drainage policies dictate that the City requires new development, that would increase storm drainage runoff in a 10-year storm event more than one cubic foot per second (cfs), to provide retention/siltation basins to limit new runoff to prior-to-development flows. The City also requires new projects, that affect the quantity or

quality of surface water runoff, to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff. The policy further states that, to the maximum extent feasible, new development shall not produce a net increase in peak storm water runoff.

The proposed development does have the potential to impact the quality of surface water runoff from the site. It is therefore recommended that post-construction best management practices be implemented for the purpose of detaining post-project flows and for mitigating potential water quality impacts related to the increased runoff.

The following sections provide an overview of the potential impacts to peak storm water discharges due to the proposed development and an overview of the potential pollutant sources and pollutant impacts that may be associated with storm water runoff from the proposed development.

Impact 7. Previously unidentified contamination could be encountered during restoration of the wetland and construction of the wetland buffer. (Potentially Significant)

Contamination at the proposed site has been identified in areas associated with historic operations. The proposed wetland and buffer is planned in an area which has been impacted by petroleum hydrocarbons due to historic operations. Encountering contaminated soil, surface water, and groundwater, without taking proper precautions, could result in the exposure of construction workers and consequently result in associated significant adverse human health and environmental impacts.

Mitigation Measure 7. Prior to any construction activities, the applicant or the applicant's consultant shall facilitate the remediation of the subject property to the satisfaction of the RWQCB.

Identification of suspected contamination may occur either by a hydrocarbon odor or visually (hydrocarbon sheen or discoloration). If suspected contaminated material is encountered, the site supervisor will be notified. The site supervisor will then determine if the workers have adequate training and proper protective equipment to continue working in the area. Work will not resume until properly trained and equipped workers are present.

Any suspected contaminated soil that is encountered will be sampled and analyzed for petroleum hydrocarbons, metals, and VOCs. If it is determined that the soil requires removal, such as soil removed during wetland restoration activities, will be moved to a secure area of the site that is away from routine traffic and is high enough that water will not pond on or around the soil. The soil will be placed on and covered with 6-mil plastic (Visqueen®) in such a way that the soil pile is protected from water run-on and run-off. Soil samples will be collected for laboratory analysis from the stockpile utilizing laboratory-supplied containers. The samples will be analyzed for petroleum hydrocarbons, metals, and VOCs. The analytical results of the soil stockpile sample will be used to determine the proper handling and disposal method for the soil. In the event that the soil requires off-site disposal, a contractor licensed to transport such material will be utilized to transport the contaminated soil to a facility that is licensed to accept such soil. All contaminated soil shall be removed from the site within 90 days, as required.

Any suspected contaminated groundwater or surface water that is encountered will be sampled and analyzed for petroleum hydrocarbons, metals, and VOCs. Identified contaminated water that requires removal will be pumped into appropriate containers, depending on the volume of water to be removed. If only a small volume of water is removed, Department of Transportation-approved, 55-gallon steel drums may be appropriate. If a large volume of water needs to be removed, a Baker Tank or equivalent may be necessary. The water will be sampled for petroleum hydrocarbons , metals, and VOCs in order to determine the appropriate disposal method.

Following site excavation, the excavated area(s) will be left open pending receipt of the confirmation soil sampling analytical results. Each excavation area will be secured with a fence during the period that they are left open. The soil analytical results will be used to assess whether or not additional soil excavation is needed in order to achieve the site clean up goals. Once the excavation work is complete, the excavation areas will be restored in accordance with an approved wetland restoration plan.

Soil Stockpile Characterization

Soil samples will be collected from various locations and depths of the stockpile for characterization. The soil stockpile characterization will be conducted in accordance with, and at the frequency required by the soil acceptance facility.

Soil Disposal

Based on the results of the soil characterization, the material will be loaded onto trucks for disposal at an appropriate facility, depending on the concentration of contaminants in the stockpiled material. The excavated material will not be stored on site for more than 90 days.

Significance After Mitigation: Less than significant

Potential Pollutant Sources and Pollutant Impacts

Potential pollutant sources associated with the proposed development include both pollutant sources associated with construction activities and pollutant sources associated with the post-construction development.

During construction, potential pollutant sources may include petroleum or heavy metal impacted sediments, and construction materials (asphalt, concrete, solvents, sealants, paints, adhesives, cleaners, etc.) that may be left exposed to rainfall and/or storm water runoff. Potential pollutant sources associated with construction activities are typically managed through the implementation of the following types of BMPs during construction:

- erosion and sediment control;
- non-storm water management; and
- waste management and materials pollution control.

Following construction, the potential pollutants sources at the site will include newly developed structures, impervious surfaces, and site landscaping areas. The potential pollutants associated with these developed areas include:

- Roof and Building Materials--Heavy Metals, Synthetic Compounds
- Parking Areas--Sediment, Oil and Grease, Debris, Heavy Metals
- Driveway--Sediment, Oil and Grease, Debris, Heavy Metals
- Walkways--Sediment, Debris
- Landscaping--Pesticides, Nutrients

Potential post-construction pollutants include heavy metals and synthetic compounds from exposed roof and building materials at the building site; increased sediments, oil and grease, debris and heavy metals from the parking areas, driveway, and walkways; and pesticides and nutrients associated with landscape maintenance activities.

Construction Site Best Management Practices

The *County of Humboldt Erosion Control Ordinances* (June 2002 version) and the *California Stormwater Best Management Practices Handbooks* were reviewed for applicable, general guidelines for erosion control and pollution prevention during construction. These guidelines present a broad set of BMPs to mitigate potential erosion and pollutant impacts associated with the development, and serve as a framework from which to apply site-specific recommendations.

- **Erosion/Sediment Control.** During the construction phase, prior to site grading, it is recommended that combinations of silt fencing, straw wattles, and/or straw bale sediment transport barriers be constructed at specific site locations. This barrier should be maintained during the rainy season and until completion of construction and should prevent transport of pollutants, such as excessive sediment, away from the construction area. The barrier should be constructed so that concentrated surface water flows during heavy rains cannot penetrate it without being dissipated in flow energy, and without the water being filtered through the sediment transport barriers.
- **Scheduling**. The north coast's dry season is typically between April 15th and October 15th. Proper timing of grading and construction during the dry season will minimize soil and construction material exposure during the rainy season. Following October 15th, areas of disturbed or fill soils more than 6 inches in depth and greater than 100 square feet (10-foot by 10-foot area) should be specifically protected from erosion by; 1) shaping the ground surface so that concentrated surface flows do not encounter or cross them; and 2) providing localized straw wattles, straw bales and/or silt fencing. During the rainy season, construction materials and equipment should also be stored under cover or in secondary containment areas.
- **Protection of Water Courses and Drainage Inlets**. Site drainage under existing conditions is toward the Bay. General guidelines for water course and drainage inlet protection during the rainy season include providing downgradient sediment traps or other BMPs that allow soil particles to settle out before flows are released to

receiving waters, storm drains, streets, or adjacent property. Drainage inlet protection BMPs, if required, should be installed in a manner that does not cause additional erosion or flooding of a roadway.

- **Soil Stockpiles.** Should it be necessary to stockpile excess soil on site, it should be placed within a sediment-protected area that is not likely to result in off-site sedimentation. If likely to be subjected to rain or high winds, stockpiles should be covered with plastic sheeting (Visqueen®, for example) at least 6 to 10-mils thick. Plastic sheeting needs to be well anchored to resist high winds. If stockpiles are to be present through the rainy season, they should be surrounded with silt or straw bale fencing about 5 feet from the toe of the pile.
- **Dust Control.** All construction areas shall be treated and maintained as necessary to minimize the generation of dust that may blow off site. The most common method of dust control during construction activities is through periodic application of water. However, the application of water for dust control purposes should be managed to ensure there is no off-site runoff.
- **Material Delivery, Storage and Use.** Materials used during construction should be delivered and stored in appropriate containers and in designated areas, to prevent the discharge of pollutants to nearby watercourses or storm drain systems. During the rainy season, if possible, materials should be stored in covered areas. Chemicals, paints or bagged materials should also not be stored directly on the ground, but instead placed on a pallet or in a secondary containment system. Materials should be used according to the manufacturer's instructions and all materials should be disposed of properly. Any spills should be cleaned up immediately and an ample supply of spill clean up materials should be kept on site during construction activities. There should be no fueling or equipment washing activities conducted on site.
- **Monitoring.** During construction, all erosion and pollution control measures should be periodically inspected throughout the duration of the project by the owner/builder or their representative. If the erosion and pollution control measures are not functioning properly, the owner must immediately contact a qualified professional so that appropriate modifications can be made.

Significance After Mitigation: Less than significant

Cumulative Impacts

Impact 8. The project would not contribute to significant cumulative hazards impacts in the project area (Less than Significant)

The hazards impacts associated with a proposed project usually occur on a project-by-project basis, rather than in a cumulative manner. Because the project contains mitigation measures to abate the site-specific hazards, any potential cumulative impact associated with the project would also be decreased. Therefore, cumulative impacts from hazards associated with the proposed project are considered to be less than significant.

Mitigation Measure: None required.

7.0 References

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